



Chapter 1 – Background and Regulatory Requirements

Description of the Proposed Project

Wisconsin Electric (WEC); Wisconsin Electric Power Company (WEPCO); and WE Power, LLC (WE Power), a non-utility affiliate, are proposing to build approximately 1,830 MW of advanced technology coal-based generating capacity.

The applicants have applied to the Public Service Commission of Wisconsin (Commission or PSC) for a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. § 196.491(3), and Wis. Admin. Code PSC ch. 111.53, and for any additional approvals required from the Commission to construct and operate a large electric power generating facility under Wisconsin's leased generation law, Wis. Stat. § 196.52(9).

The new facility, the Elm Road Generating Station (ERGS), would consist of two super-critical pulverized coal (SCPC) units and a single integrated-coal gasification (IGCC) unit, all constructed on or adjacent to a site containing WEPCO's existing Oak Creek Power Plant (OCPP). The new generating units would be constructed and owned by WE Power. The units would be leased by WEPCO and other interested utilities. Employees of WEPCO would operate the new facilities.

The purpose of the project is to satisfy WEPCO's need for additional capacity over the coming years. WEPCO forecasts that its peak demand driven by population growth, new wholesale obligations, business expansion and increasing usage per customer, will grow at approximately 2.9 percent annually from 2002 through 2011, reaching 7,612 MW. In order to meet this need, plus an 18 percent reserve margin, it has proposed a package of generation capacity that includes 1,090 MW of natural gas-fired capacity at its existing Port Washington Power Plant site and 1,830 MW of coal-based generation that is the subject of this application. The portion of the new facilities at Port Washington and Elm Road expected to be available for use by WEC's utilities is 2,620 MW. It is anticipated that the remaining capacity, approximately 300 MW, would be leased by other Wisconsin-based utilities.

Proposed Facilities

SCPC units

Two SCPC units would be built on the selected site. One would commence construction in 2004 and begin operation in 2008⁹ and the second would have an in-service date of 2009, with a similar construction period.

The SCPC technology is more advanced than conventional coal-combustion technologies currently in operation in Wisconsin. In the SCPC technology, water is heated to higher temperatures and pressure so that the energy content of the steam delivered to the turbines is much greater. Higher plant efficiencies result and less fuel is burned per unit of electrical output.

The combustion process and the equipment and components that comprise the power block are described in Chapter 6. All of the auxiliary facilities, such as the coal handling equipment and coal train unloading facilities are also discussed in Chapter 6.

IGCC unit

The proposed IGCC process is designed to break down coal into its basic constituents and produce a synthetic gas (syngas), separate out pollutants from the syngas, and use the syngas as fuel for the combustion turbines. Waste heat is also used to produce steam for steam turbine use.

The IGCC technology, which is described in detail in Chapter 6, is based on several existing facilities in the U.S. However, this technology is still in the early stages of development relative to conventional coal and SCPC combustion technologies. The IGCC plant is proposed to be in service in 2011 and it is expected that changes in the technology and estimated final cost could differ from what is presented in this application.

Proposed sites

The proposed sites for the ERGS are on a large parcel of land located along the shore of Lake Michigan near the OCPP. The parcel is approximately 1,000 acres in size, and is primarily owned by WEPCO. This land currently functions as buffer area around the existing OCPP. An 80-acre property within the WEPCO property is currently used as a shooting range, but is also being considered as a site for some of the facilities. This property consists of two parcels - a northerly parcel owned by the State of Wisconsin and a southerly parcel owned by the U.S. government.

Three sites for the proposed ERGS were identified in the CPCN application. One of the proposed sites is in the city of Oak Creek in Milwaukee County at the east end of Elm Road, north of the existing OCPP. This site is referred to as the North Site throughout this EIS. A second site, the South Site, is located south of the existing OCPP along the lakeshore. A variation of the South Site was proposed as the applicants' third site alternative. For purposes of description and analysis in this document, this alternative will be referred to as South-Exp Option.

⁹ In WEPCO's direct testimony, May 2008 is listed as the start-up date for the first SCPC unit. This differs from the 2007 date provided in the CPCN application and used in the analyses for the draft EIS.

Selection of the South Site would place all three coal units (two SCPC units and one IGCC unit) on property currently owned by WEPCO. In the South-Exp Option, the two SCPC units would be placed on WEPCO property in the same location, but the IGCC unit would be built on the section of land that is currently federally-owned. Use of the South-Exp Option would require negotiations for a land purchase or swap between WEPCO and the federal government. Both the South Site and its variant, the South-Exp Option, are located in the town of Caledonia in Racine County.

Since the draft EIS was issued, WEPCO and the city of Oak Creek agreed upon another site layout plan for the North Site. This site layout was negotiated as part of the Conditional Use Permit (CUP) process that the applicants agreed to follow in their agreement with the city of Oak Creek. The applicants have stated that they would be willing to build the ERGS facilities as proposed in their CPCN application (with some exceptions), but that they would like to have the new site layout, hereafter referred to as the CUP Option, considered by the Commission in its final decision on the project.

In the CUP Option, the two SCPC units and the IGCC unit would be placed at approximately the same location as in the original North Site layout. However, the new option involves relocating the active and reserve coal piles, splitting the existing substation into two sections and relocating the substations, adding a new access road and ash haul roads (and possibly a new ash reburn building), and altering the configuration of soil deposition areas. A description of the new layout and its potential environmental effects are described in Chapter 12 of this final EIS.

Both the North and South Sites are within WEPCO's service territory adjacent to a major and growing source of electric load. A description of the criteria used in identifying potential sites and the methodology and justification used by WEPCO to select the proposed sites is found in Chapter 6.

Ownership and operation

WEPCO is a public utility, as defined in Wis. Stat. § 196.01(5), engaged in the generation and distribution of electricity to customers in eastern Wisconsin and the upper peninsula of Michigan.

WEPCO owns, or would own (if it obtains the federal land), the site on which the proposed ERGS facilities would be located. WE Power would build and own the facility, and WEPCO would operate the facility.

Leased generation agreements

The leased generation statute was created recently to allow the formation of electric generating facilities by non-regulated entities and the use of leased generation contracts between the non-utility entity and the public utility. The addition of this subsection to Wis. Stat. §196.52 does not change the basic requirement that affiliated interest agreements (in this case, leased generation contracts) must be reasonable and in the public interest.

According to the application, an entity titled Elm Road Generating Station - SCPC Unit 1 LLC would be formed as another wholly owned subsidiary of WEC. WEPCO, WE Power, and ERGS - SCPC Unit 1 LLC are or will be affiliated interests as defined in Wis. Stat. § 196.52.

WEPCO would lease the land (the Ground Lease) to build the proposed facilities to ERGS - SCPC Unit 1 LLC. WE Power would lease its owned interest in the facility (the Facility Lease), and sublease its interest in the facility site (Ground Sublease) to WEPCO, who would operate the electric generation facility. Similar arrangements would occur for the second SCPC unit as well as the IGCC unit.¹⁰

Because WEPCO and WE Power are affiliated interests, the Facility Lease and Ground Sublease between WEPCO and WE Power must receive PSC approval under Wis. Stat. § 196.52(9). The completed facility would be owned by WE Power. WE Power would own assets that comprise a complete facility for the generation of electricity under the leased generation law. These relationships and facility leases related to the ERGS are shown in Figure 2-4 in Chapter 2.

Cost in brief

The cost to construct both SCPC units and the IGCC plant would be approximately \$4.3 billion. A detailed discussion regarding the assumptions and uncertainties contained in the estimated costs, the structure of the financing and lease arrangements, and the potential long-term impact of the facility cost on WEPCO customers is discussed in Chapter 2.

Proposed Schedule

Draft EIS issued	April	2003
Public meetings	May	2003
Final EIS issued	August	2003
Technical hearings	August	2003
Public hearings	September	2003
PSC decision and order	November	2003

If the project is approved:

Begin construction of initial SCPC unit	April	2004
Begin construction of the second SCPC unit	December	2005
Commence operation of the first SCPC	May	2008

PSC Construction Case Process

Application for PSC certification

Anyone proposing to build a power plant of 100 MW or more in Wisconsin must obtain approval from the PSC in the form of a CPCN before construction can begin. The Commission makes the final decision about whether a power plant is built and where it is sited. The Commission consists of three members, appointed by the governor for staggered six-year terms.

¹⁰ Each subsequent unit of the ERGS, the second SCPC unit and the IGCC unit, would require the development of a separate Ground Lease, Ground Sublease, and Facility Lease.

Project developers must file a detailed CPCN construction application with the PSC. Once the PSC deems an application complete under Wis. Stat. § 196.491(3), it must complete its review process within 180 days. Court approval is needed to extend the review time to a maximum of 360 days. If the PSC does not obtain a court extension or issue a CPCN within this time period, the project is automatically approved as proposed by the applicant.

Because of the complexity of the ERGS proposal and the amount of public interest it has generated, the Commission applied to the Dane County Clerk of Court for a 180-day extension needed to complete the review of this project. A 180-day extension was granted. Thus, the Commission's final decision must be rendered by November 10, 2003.

DNR permitting authority

The developer of a proposed power plant must obtain several approvals and permits from the DNR. Some of these permits are designated as "pre-construction" permits or approvals. Construction may not begin until these permits and approvals are received by the applicants. The primary DNR approval needed before power plant construction may begin is the construction permit for a new source emitting significant¹¹ quantities of air pollutants. The DNR will also conduct a Prevention of Significant Deterioration (PSD) review and use the results in establishing permit conditions.

Because of the location of the proposed sites and potential for adverse effects to the lakeshore and water quality, several other permits have also been designated as pre-construction approvals. These include the permit for grading work for the generating facilities, the NR 103/NR 299 analysis and certification for wetland fill associated with the generating station site work, the approval of a plan for construction site stormwater runoff, and the threatened/endangered species review for construction associated with the generating station site work.

Some of the other important water-related permits and approvals would include modification of the WPDES permit, and a water withdrawal and loss approval. Other DNR permits would be required for various parts of the power plant project, depending on the final location, the type of shoreline protection measures implemented, the selected method of coal and limestone delivery for the new plant, and other expected impacts.

Wisconsin Environmental Policy Act

Environmental impact statement

The Wisconsin Environmental Policy Act (WEPA), Wis. Stat. § 1.11, requires all state agencies to consider the environmental impacts of major actions that could significantly affect the quality of the human environment. A proposal for a coal-fired power plant requires preparation of an environmental impact statement (EIS) under Wis. Admin. Code § PSC 4.10, regardless of whether it is located at an existing generating site or a green field site. The PSC and the DNR have prepared this EIS jointly with the PSC functioning as the lead agency. Based on the information provided, this EIS describes the proposed project

¹¹ "Significant" in this context means the level of pollutants that triggers the permitting process.

to the extent known, discusses possible alternatives to the proposed action, and evaluates the project need, cost, and impacts on the natural and human environment.

The EIS process has several stages: a draft EIS is produced and circulated for comment; all comments are considered in preparing a final EIS which is also distributed for review; and a public hearing is held in the project area.

Public participation opportunities

As part of agency scoping responsibilities under Wis. Admin. Code § PSC 4.30(2) and NR 150.21(3), the PSC and DNR, before preparing the draft EIS, solicit comments from any person interested in the proposed action. The PSC also distributes copies of the project application to local clerks and libraries for inspection by the public.

The applicant and the regulatory agencies may hold public information meetings in the project area early in the process. At these meetings, the public can learn more about the project, the applicant can improve its application, and the PSC and DNR staff can learn more about local concerns and interests before beginning to prepare the draft EIS.

The purpose of the EIS is to inform the Commissioners and the public of the potential effects of the proposed project. After the draft EIS is issued, there is a public comment period of 45 days. After the final EIS is issued, there is at least a 30-day review period to allow individuals to read the final EIS and prepare for the public hearing. The Commission provides notice to the public and holds a public hearing in the project area. The hearing is the opportunity for the public to make their views known to the Commissioners.

Process and public participation for this case

Application filed – PSC docket 05-CE-130

On February 1, 2002, WEPCO, WE Power, and WEC filed a CPCN application for authority to construct 1090 MW of natural gas-fired generation at the existing Port Washington Power plant site and 1830 MW of coal-fired generation on or adjacent to the existing OCPP site. The applicants also filed for other approvals related to the new leased generation law. The PSC subsequently bifurcated the process for reviewing the Port Washington Generating Station (PWGS) and the ERGS into two separate construction dockets. The PWGS application (PSC docket 05-CE-117) was reviewed and approved in 2002. The ERGS application was assigned PSC docket number 05-CE-130 and is the subject of this EIS.

After the company filed additional materials, the PSC found the application to be complete on November 15, 2002. The PSC distributed copies of the entire application to local clerks and county libraries in the project area. It also issued a public notification to interested and affected persons on January 13, 2003, to explain the PSC's review process, to solicit comments and questions about the proposed project, and to announce a public scoping meeting, which was jointly sponsored with the DNR and held on January 27, 2003. Applications for several permits were filed with the DNR at about the same time the CPCN application was filed.

PSC process

The PSC and the DNR prepared this draft EIS and held public meetings in the project area during the 45-day comment period to solicit comments on the draft EIS. Following the comment period, a final EIS was prepared taking into consideration the comments received and new information filed by the applicants in their direct testimony and in response to numerous data requests. A Notice of Hearing will be issued at least 30 days before the scheduled hearing date, possibly with the final EIS.

About 30 days after the final EIS is issued, the PSC will hold public hearings in the project area on the final EIS and the CPCN application. After the hearing is complete and transcripts of the hearing record are reviewed, the three Commissioners will meet to make a decision to approve, modify, or reject the proposed project based on information presented at the hearing. That meeting will be open to public observation. If one or more of the proposed coal-fired units are approved, the Commission will select the site for the unit(s) and add any conditions it determines necessary to be included in the construction order. After the Commission's decisions are made, an order to the applicants will be prepared and issued.

Public participation activities for this docket

Applicants

The applicants have prepared materials outlining the plans for the ERGS, issued news releases, sent letters to area residents, held several open house meetings, and conducted personal visits regarding the project. WEPCO representatives have also met with municipal government members of the nearby communities of Oak Creek and the town of Caledonia.

PSC and DNR

After reviewing the CPCN application and DNR permit applications, the PSC and DNR co-hosted a public scoping meeting with afternoon and evening sessions on January 27, 2003 in the Oak Creek Community Center on Howell Avenue in the city of Oak Creek. A press release was issued, and direct mail invitations were made to everyone on the project mailing list, including landowners near the project site and members of the public that had contacted the PSC about the project. About 200 members of the public participated in the afternoon session, and about 300 people attended the session in the evening.

Meetings to solicit comments on the draft EIS were held in Oak Creek and the town of Caledonia in May 2003. These meetings were well attended and staff received nearly 300 written and verbal comments during the 45-day comment period, many of them substantive in nature. The comment period on the draft EIS ended on June 12, 2003. Comments were used to prepare this final EIS.

The hearing and the Commission decisions

As described above, the final EIS will be distributed to all interested and affected persons who request a copy. A 30-day review period for the final EIS will be followed by a public hearing in which members of the public are encouraged to testify. The Commission meeting where final decisions on the project are made will be open to public observation.

Public involvement through other state agencies

An air pollution control permit is part of the project review, and anticipated air pollutant emissions are described in this EIS. The hearing on the air permit will likely be held separately in late September 2003.

The EPA has also delegated to DNR its determination regarding whether the ERGS facilities qualify as new or existing facilities under Section 316 (b) of the Clean Water Act. This determination could affect the applicant's ability to use once-through cooling technology for the ERGS facilities. More information about this determination is found in Chapter 9.

Other state level permits would be needed to build or operate the plant but are not required before plant construction can begin. Some permits are required before specific plant components are installed, constructed, or operated. State agency permits and approvals needed for this project are listed in Table 1-2.

Other Federal, State and Local Interests

Federal interests

Several federal government agencies also have regulatory interests in this project that they will act on directly or will delegate to state agencies. These interests can be varied, depending on the sites and the type of facilities proposed. Table 1-1 indicates the federal agencies involved in this project to date.

Table 1-1 Federal government agencies involved in the project

Agency	Interest or Permit	Contact
U.S. Environmental Protection Agency	Section 316(b) Clean Waters Act determination - delegated to DNR	
	Clean Air Act New Source Performance Standards - delegated to DNR	See DNR below in Table 1-2
	Clean Air Act Acid Rain Permit - delegated to DNR	See DNR below in Table 1-2
U.S. Army Corps of Engineers	s. 404 of the Clean Waters Act - wetland fill for generating station, coal storage, site work, rail improvements. Construction of railroad underpasses and/or overpasses	Tamara Cameron St. Paul District (651) 290-5197
	s. 10 of the Rivers and Harbors Act of 1899 - construction of breakwater and harbor facilities, including dock extension	
Federal Aviation Administration	Reviewing heights of proposed facilities; assessing impacts on aviation and clearance standards; and requiring facility alterations as needed.	Richard Farrell, III Great Lakes Regional Office (847) 294-7566

National Historic Preservation Act compliance

Under Section 106 of the National Historic Preservation Act, the Wisconsin Historical Society (WHS) must be consulted by each federal agency that has an interest in this project. These agencies must also contact any Native American peoples that may have an interest in the area affected by the project and any other individuals that may be affected by the loss or protection of historical, archeological, or traditional cultural properties as part of agency actions. Eventually, treatment of the area of potential affect would be the subject of a memorandum of agreement among all the interested parties.

The requirements of Section 106, when invoked early in a project review at the Commission, supersede the requirements of the corresponding state law on historic preservation. If Section 106 is invoked, it could cover all facets of this project, including the plant site, any new natural gas corridor, and any new water intakes, outflows, or pipeline corridors that are required by the proposed plant. Discussions of historical and archeological considerations are in Chapter 10 of this draft EIS under the heading "Historical and

Archeological Sites.” Although the results of any negotiations or agreement under Section 106 can be incorporated into the final EIS, it is possible that they would occur during federal agency review processes after the project received PSC approval. If no historic properties were potentially affected, the Section 106 process could be completed before the CPCN were issued.

State interests

In addition to the substantial approval and permitting interests of PSC and DNR, several other state agencies must approve plans, designs, or specific components of the proposed generating facilities and auxiliary equipment.

Table 1-2 State agency approvals and permits required for construction of the proposed plant, electric transmission, and water supply and discharge structures

Agency	Approvals/Permits or Interests	Contact
Public Service Commission	s. 196.491 Wis. Stat. – Certificate of Public Convenience and Necessity for construction of large electric generating facility	Jeffrey Kitsemel 608-266-9658
	s. 196.49 Wis. Stat. - Certificate of Authority and s. 196.491 Certificate of Pubic Convenience and Necessity for transmission construction	
Department of Commerce	s. 101.12 Wis. Stat. - Plan and specification approval for construction of buildings and structures and installation of HVAC equipment, exhaust systems and elevators	Betty Wiese-Milwaukee. Co (414) 8523694 Larry Weede-Racine Co (262) 949-4300
	ch. DCOMM 41 and s. 101.17 Wis. Stat. - Safety requirements for installation of boilers, turbines, and related equipment	Terrence Walbillig (414) 303-8575
	ch. DCOMM 82.20 - Plan review and approval for construction of plumbing facilities	Robert Samuels (262) 424-3373
	ch. DCOMM 10 and s. 101.09 Wis. Stat. - Design requirements for installation of fuel or lubricating oil storage tanks	Vannessa Mouth (608) 267-5280
Department of Natural Resources	ch. NR 407 - Air quality operation permit and acid rain permit	Jeffrey Hanson (608)266-6876
	ch. NR 405, 406, 408 - Air construction permit	
	ch. NR 103 and 299 - Analysis/certification for wetland fill for the generating station coal storage, site work, and rail improvements	Heidi Hopkins (414) 263-8522
	s. 30.19 Wis. Stat. - permit for grading work in excess of 10,000 sq. ft. for generating facilities	
	s. 30.19 Wis. Stat. - permit for grading work for construction of railroad underpasses and./or overpasses	
	s. 30.21 Wis. Stat. - Approval for use of lakebed, dredging, and shoreline structures for construction of breakwater and harbor facilities.	
	s. 30.21 Wis. Stat. - Approval of use of lakebed for installation of the cooling water intake and discharge structures.	Peter Woods (262) 884-2360
	ch. NR 216 - WPDES Permit for stormwater discharges associated with construction activities and amendment of existing stormwater pollution prevention plan	
	ss. 281.35 and 281.41 Wis. Stat. and NR 142.06 – Approval for water withdrawal and water loss	Dan Joyce (608) 266-8736
	s. 283.31(6) Wis. Stat. and 316(b) CWA - BTA modification of WPDES permits and determination for cooling water intake structure	

**PUBLIC SERVICE COMMISSION OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES**

Agency	Approvals/Permits or Interests	Contact
Department of Natural Resources (continued)	ch. NR 502 - Approval for storage of coal combustion byproducts	Bizhan Zia Sheikholeslami (414) 229-0852
	ch. NR 514 - Solid waste approval for landfill plan of operation modifications	Heidi Hopkins (414) 263-8522
	s. 29.604 Wis. Stat. and NR 27 - Incidental take for threatened and endangered species if necessary	Jennifer Bardeen (608) 266-0289
Department of Transportation	s. 114.135(6) Wis. Stat. - High structure permit for the stacks	Gary Dikkers (608) 267-5018
	Vehicle weight restrictions and oversize/overweight permits	
Department of Health and Family Services	s. 145 Wis. Stat. - Approval of plumbing and fire protection system for construction of plumbing facilities	TBD
Wisconsin Historical Society	s. 44.40 Wis. Stat. - Approval of archeological surveys	Richard Dexter (608) 264-6509

Local Interests

To date, the city of Oak Creek and the town of Caledonia have been very active in seeking information about the project and involving local citizens and residents in the project review. Many locally sponsored meetings and forums have been held in these communities to provide information to citizens and ensure that the applicants are aware of local interests. Milwaukee and Racine County governments are also involved in reviewing certain aspects of the proposed project. Table 1-3 indicates the local interests and approvals necessary for construction of the ERGS facilities.

Table 1-3 Local government approvals and interests

Agency or Office	Interest or Approval	Contact
Milwaukee County	Inventory of hazardous materials and toxic release	Carl Stenbol (414) 278-4709
Racine County	Conditional Use permit to incorporate requirements of local ordinances, including site plan approval, erosion control, drainage and noise.	Julie Anderson (262) 886-8470
	Inventory of hazardous materials and toxic release	David Maack (262) 242-4202
City of Oak Creek	Conditional Use Permit to incorporate requirements of local ordinances, including site plan approval, erosion control, drainage and noise	Doug Seymour (414) 768-6526
Town of Caledonia	Coordination with Racine County on conditional use permit	Fred Haerter (262) 835-8423
	Construction permit, including erosion control and stormwater control plans for construction of railroad underpasses and/or overpasses.	